

**WHAT IS CLAIMED:**

1. A process for producing a paper wrapper having reduced ignition proclivity characteristics when incorporated into a smoking article comprising the following steps:
  - providing a paper wrapper comprised of a paper web;
  - applying multiple layers of a film-forming composition to said paper wrapper at particular locations, said multiple layers of said film-forming composition forming treated discrete areas on said wrapper, said paper wrapper being dried after application of each of said layers, said discrete areas separated by untreated areas, said treated discrete areas having a permeability within a predetermined range sufficient to reduce ignition proclivity, said treated areas reducing ignition proclivity by reducing oxygen to a smoldering coal of the cigarette as the coal burns and advances into said treated areas.
2. The process of claim 1, wherein the multiple layers are printed onto said paper.
3. The process of claim 1, wherein said multiple layers are applied to the paper wrapper using a method selected from the group consisting of flexography, direct gravure printing, and offset gravure printing.
4. The process as in claim 1, wherein said treated areas comprise a plurality of discrete circumferential bands disposed longitudinally along said smoking article.
5. The process as in claim 4, wherein said bands have a width of greater than 4 mm.
6. The process as in claim 4, wherein said bands are spaced from each other at a distance of from about 5 mm to about 30 mm.
7. The process of claim 1, wherein said film-forming composition comprises an alginate.

8. The process of claim 1, wherein said film-forming composition comprises a pectin.
9. The process of claim 1, wherein said film-forming composition comprises a silicate.
10. The process of claim 1, wherein said film-forming composition comprises a polyvinyl alcohol.
11. The process of claim 1, wherein the film-forming composition comprises a starch.
12. The process of claim 1, wherein the film-forming composition comprises a cellulose derivative.
13. The process of claim 1, wherein the paper wrapper has a permeability of from about 60 Coresta to about 90 Coresta prior to applying said film-forming composition.
14. The process of claim 13, wherein said paper wrapper has a permeability of less than about 20 Coresta within the treated discrete areas.
15. The process of claim 1, wherein the treated discrete areas have a BMI of from about  $1 \text{ cm}^{-1}$  to about  $8 \text{ cm}^{-1}$ .
16. The process of claim 1, wherein the film-forming composition is applied to the paper wrapper in the treated discrete areas in an amount up to about 50% by weight based upon the weight of the paper wrapper.
17. The process of claim 1, wherein the amount of the film-forming composition that is applied to the paper wrapper varies between at least two of the layers.
18. The process of claim 1, wherein the paper wrapper is dried between application of each of the layers by being contacted with a hot gas.
19. A process for producing a smoking article comprising the



by weight based upon the weight of the wrapper.

24. The process of claim 21, wherein the first amount to form the first layer is less than the second amount to form the second layer.

25. The process of claim 24, wherein the film-forming composition is applied to the paper wrapper to form the first layer in an amount up to about 10% by weight based upon the weight of the wrapper and wherein the film-forming composition is applied to the paper wrapper to form the second layer in an amount from about 1% to about 20% by weight based upon the weight of the wrapper.

26. The process of claim 21, further comprising the step of drying the paper wrapper after application of each of the layers of the film-forming composition.

27. The process of claim 21, wherein the multiple layers are printed onto said paper wrapper.

28. The process of claim 21, wherein said multiple layers are applied to the paper wrapper using a method selected from the group consisting of flexography, direct gravure printing, and offset gravure printing.

29. The process as in claim 21, wherein said treated areas comprise a plurality of discrete circumferential bands disposed longitudinally along said smoking article.

30. The process as in claim 29, wherein said bands are spaced from each other at a distance of from about 5 mm to about 30 mm.

31. The process of claim 21, wherein said film-forming composition comprises an alginate composition.

32. The process of claim 21, wherein said film-forming composition comprises a pectin composition.

33. The process of claim 21, wherein said film-forming composition comprises a silicate composition.

34. The process of claim 21, wherein said film-forming

10054744-1-1301

composition comprises a polyvinyl alcohol composition.

35. The process of claim 21, wherein the paper wrapper has a permeability of from about 60 Coresta to about 90 Coresta prior to applying said film-forming composition.

36. The process of claim 21, wherein the treated discrete areas have a BMI of from about  $1 \text{ cm}^{-1}$  to about  $5 \text{ cm}^{-1}$ .

37. A process for producing a smoking article comprising the step of surrounding a tobacco column with the paper wrapper defined in claim 21.

38. The process of claim 21, wherein the film-forming composition comprises a starch composition.

39. The process of claim 21, wherein the film-forming composition comprises a cellulose derivative composition.

40. A process for producing a paper wrapper having reduced ignition proclivity characteristics when incorporated into a smoking article comprising the following steps:

providing a paper wrapper comprised of a paper web, said paper web having a relatively high permeability, the permeability of the paper web being from about 60 Coresta to about 110 Coresta;

applying a film-forming composition, to said paper wrapper at particular locations, said film-forming composition forming treated discrete areas on said wrapper, said discrete areas separated by untreated areas, said treated discrete areas having a permeability within a predetermined range sufficient to reduce ignition proclivity, said permeability being less than about 20 Coresta within the treated areas, said treated areas having a Burn Mode Index of less than about  $8 \text{ cm}^{-1}$ , said treated areas reducing ignition proclivity by reducing oxygen to a smoldering coal of the cigarette as the coal burns and advances into said treated areas.

41. The process of claim 40, wherein the film-forming composition is applied in multiple layers to form the treated discrete areas.

42. The process of claim 41, further comprising the step of drying the paper wrapper in between application of each of the multiple layers of the film-forming composition.

43. The process of claim 40, wherein the film-forming composition is printed onto the paper wrapper.

44. The process of claim 40, wherein the film-forming composition is applied to the paper wrapper using a method selected from the group consisting of flexography, direct gravure printing, and offset gravure printing.

45. The process of claim 40, wherein said treated areas comprise a plurality of discrete circumferential bands disposed longitudinally along said smoking article.

46. The process of claim 40, wherein said film-forming composition comprises an alginate composition.

47. The process of claim 40, wherein said film-forming composition comprises a pectin composition, a silicate composition, a polyvinyl alcohol composition, a starch composition, or a cellulose derivative composition.

48. The process of claim 40, wherein the paper web has a permeability of greater than about 80 Coresta and wherein the treated discrete areas have a permeability of less than about 6 Coresta.

49. A process for producing a smoking article comprising the step of surrounding a tobacco column with the paper wrapper defined in claim 40.